



# GQA based on risks

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## General : AQAP 170 definitions

- **Risk** is the combination of the probability that an undesirable event may occur and the impact of the undesirable event if the event did occur.
- **Probability** is the likelihood of an undesirable event occurring.
- **Impact** is the loss or affect on the project or product if the risk occurs.

## GQA based on risks

**NQAA contributes to risk management by :**

- 1 - identifying realization risks (*risk preliminary analysis, brainstorming, past GQA experience, risk information...*)
- 2 - characterizing these risks
- 3 - choosing risks to control and prioritising them
- 4 - proposing offered GQA products based on these risks to the customer
- 5 - carrying out GQA, especially on either critical entity : process, product or (sub-)contractor
- 6 - *recording GQA experience based on risks*

## GQA based on risks

In the context of a notified contract, DPM/SQ is involved in risk assessment by carrying out a risk preliminary analysis for risks of non compliance with contract requirements :

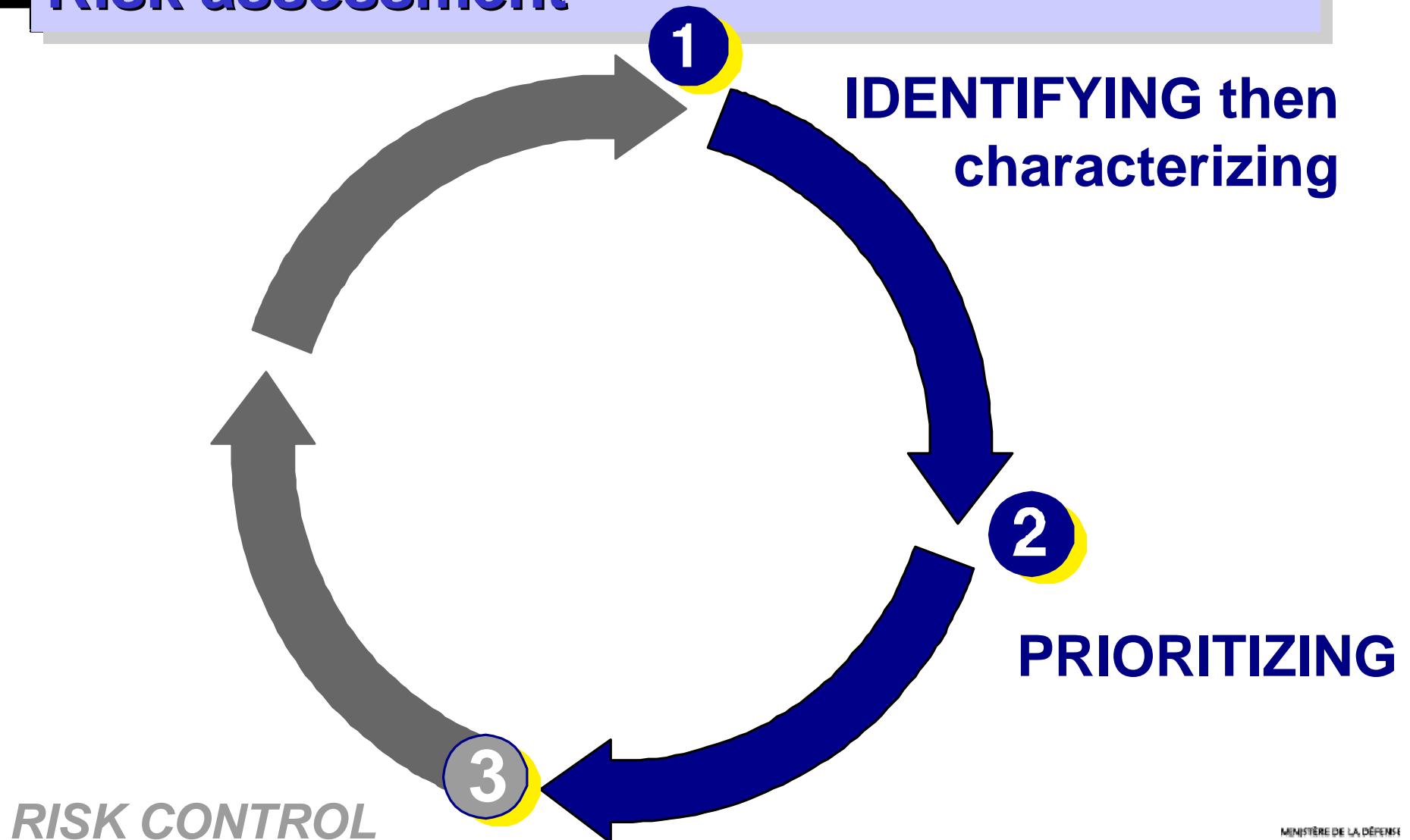
⇒ product risk, process risk, contractor risk...

*In the following slides, they are called realization risks*

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# Risk assessment



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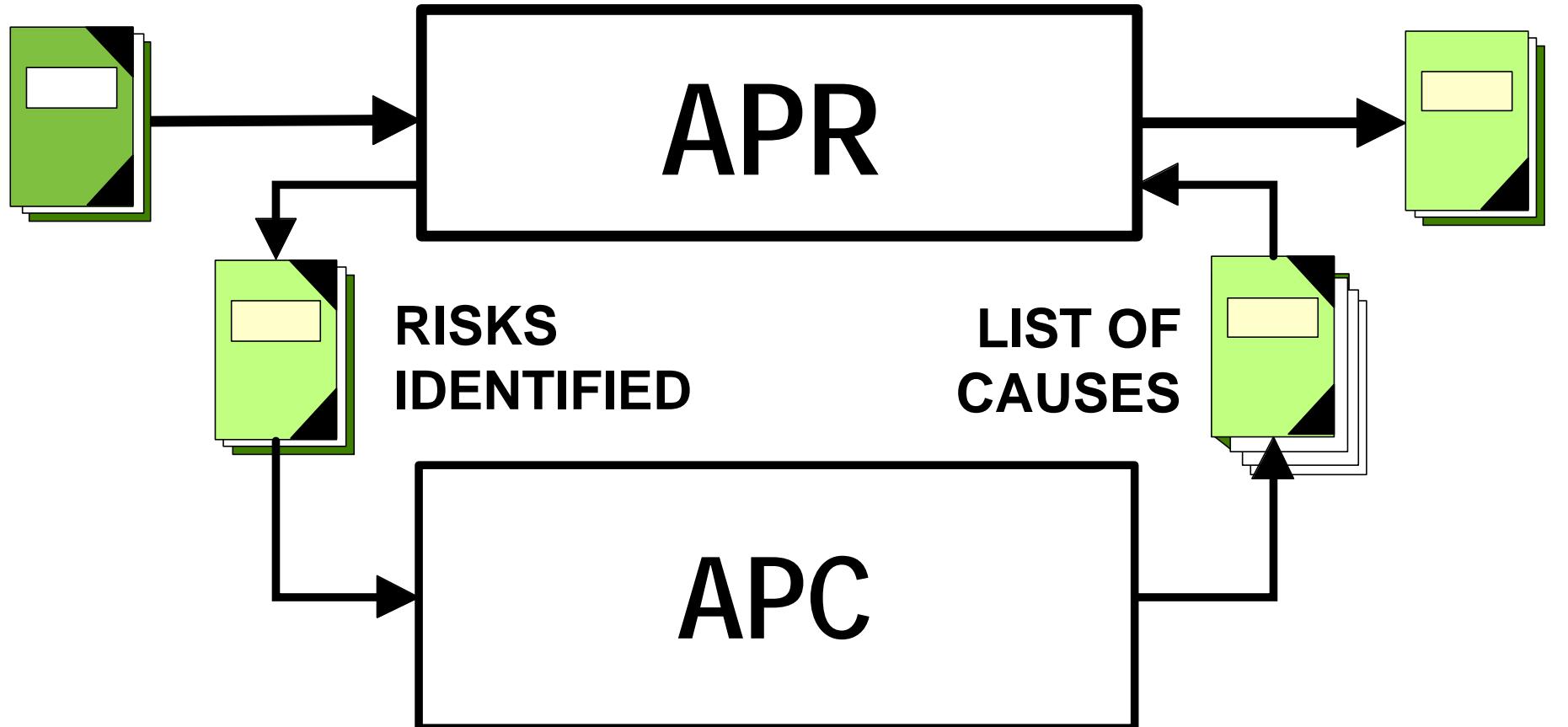


## Risk assessment model in use : APR

- APR contributes to determine the offered GQA product.
- APR allows DPM/SQ to elaborate any reply to a request based on risks or a request for GQA based on risks.
- APR allows DPM/SQ to prepare GQA for a customer in reply to a request for support like :
  - contributing to determine quality clauses or management requirements,
  - contributing to determine objective evidence that must be required in the contract,
  - assisting customer to express his GQA need.

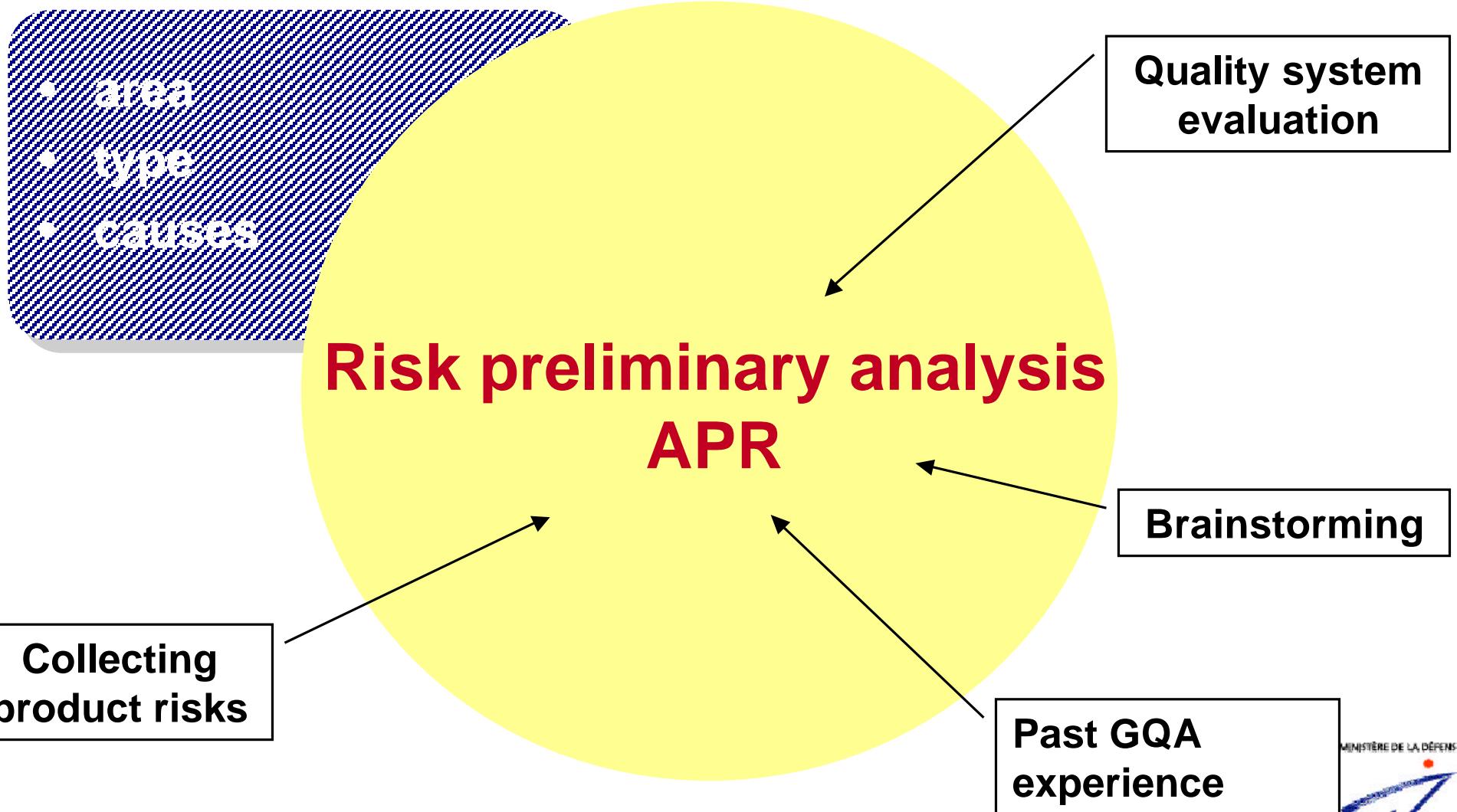
# Risk preliminary analysis

Request for risk identification



APC : Causes preliminary analysis (risks characterizing)

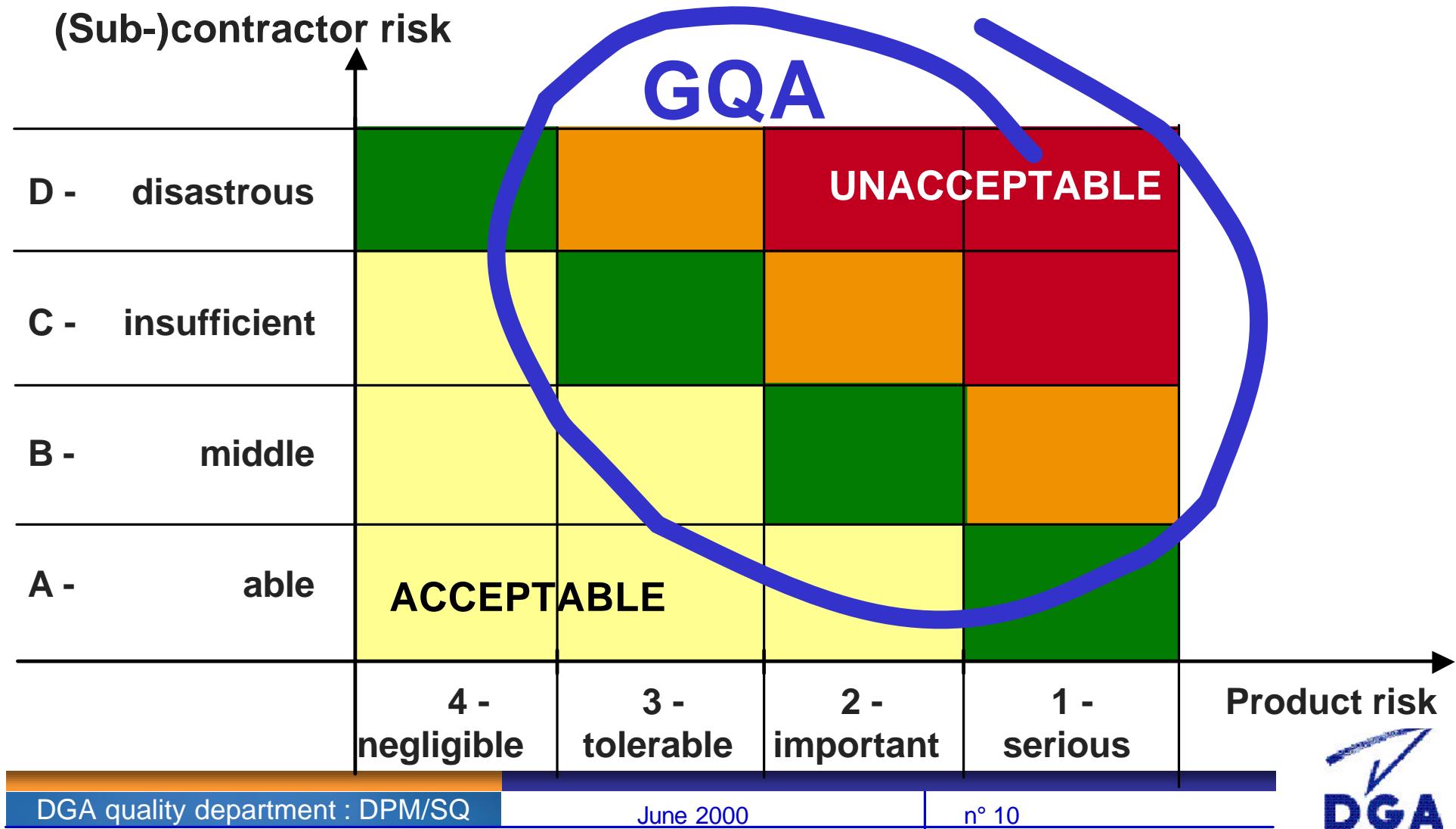
# A risk assessment guide



# Product and contractor risks



# Example of risk approach



- Product risk
- lack of interfaces control

NQAA  
knows industrial  
area and identifies  
realization risks.



## Example :

- lack of technical interfaces control
- absence of quality manager
- ...

# Risk identification

- main factor
  - area
  - lack of interfaces control
  - technical risk
  - support risk
- realization risk**
- scientific risk
  - technological risk
  - product risk
- 
- The diagram illustrates the concept of 'realization risk' as a central concern. It features a balance scale with two main sections. The left section, colored dark blue, represents 'support risk' and contains three bullet points: 'main factor', 'area', and 'lack of interfaces control'. The right section, colored yellow, represents 'realization risk' and contains three bullet points: 'scientific risk', 'technological risk', and 'product risk'. A black silhouette of a helicopter is positioned in the center, above the scale, symbolizing flight or operation.

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# Risk identification

- product risk
- technical
- **minor factors**
- **lack of interfaces control**

APR

## realization risk

- product integration
- product complexity
- product integration that carry out vital functions
- intervention of **multidisciplinary teams**
- lack of technologiecontrol
- unknown technologie

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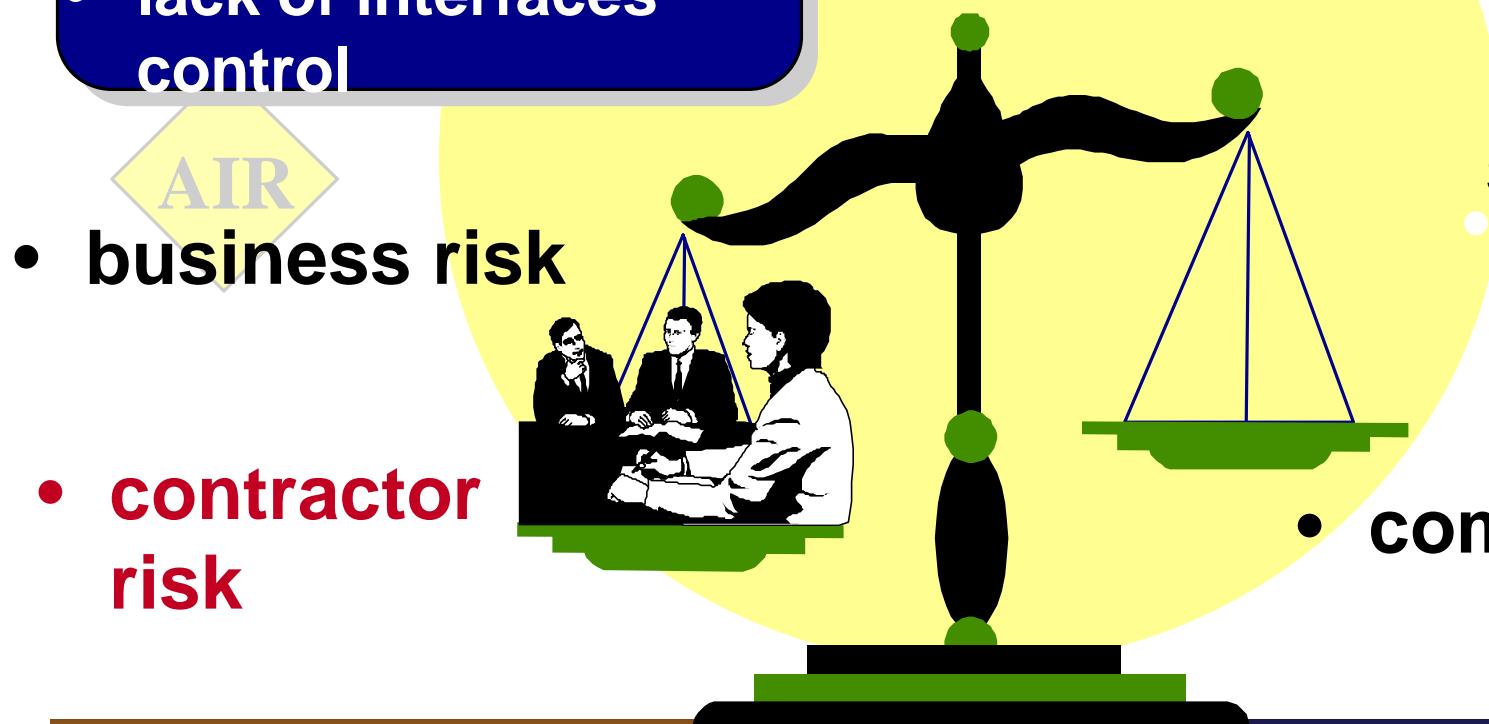


# Risk identification

- main factor
- area
- lack of interfaces control
- business risk
- contractor risk

realization  
risk

- supplier risk
- quality systeme risk
- commercial risk



# Risk identification

- Contractor risk
- quality system
- **secondary factors**
- **lack of interfaces control**

APR

## realization risk

- **absence of purchasing control**
- global absence of quality system
- monopole exerted by the contractor
- **contractor that is evaluates insufficient by the customer**
- lack of experience on previous similar contracts
- no relevant evaluation known
- sub-contractor enforced on the contractor by the customer...

# APR : risk preliminary analysis

Facteur principal	Domaine de risques
Risque associé au contractant	Risque associé au fournisseur Risque associé au système qualité Risque commercial : fragilité du fournisseur Risque d'entreprise
Risque associé au produit	Risque en utilisation : criticité opérationnelle Risque scientifique : performance Risque technique Risque technologique

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# APR : file « Areas & secondary factors »

Facteur principal	Domaine de risques	Facteur secondaire
Risque associé au produit	Risque en utilisation : criticité opérationnelle	élément important
Risque associé au produit	Risque en utilisation : criticité opérationnelle	élément essentiel
Risque associé au produit	Risque en utilisation : criticité opérationnelle	mauvaise estimation de la criticité opérationnelle
Risque associé au produit	Risque en utilisation : criticité opérationnelle	non prise en compte de l'AMDEC dans le traitement en temps réel des faits techniques
Risque associé au produit	Risque scientifique : performance	performances déjà obtenues et perte de maîtrise
Risque associé au produit	Risque scientifique : performance	performances dérivées de réalisations antérieures
Risque associé au produit	Risque scientifique : performance	performances extrapolées à partir de données théoriques
Risque associé au produit	Risque technique	intégration complexité produit
Risque associé au produit	Risque technique	intégration mettant en oeuvre des fonctions vitales
Risque associé au produit	Risque technique	intervention d'équipes pluridisciplinaires
Risque associé au produit	Risque technique	technologie
Risque associé au produit	Risque technique	technologie non encore industrialisée

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# Risk characteristics (DGA/AQ 924)

- area
- type
- causes

- active period
- state of risk

**RISK**

- entity impacted
- impact
- program import
- probability

- detectability
- industrial risk manager
- control actions

# APR : Risk preliminary analysis

Definitions

Scope

Causes  
characteristics

Key GQA actions

Carrying out APR on the whole APC data base recorded

APC data base

Causes analysis limited to the only unacceptable and unknown AQAP-110 requirements.

Analysis / AQAP-110  
requirements

AQAP-110 requirement ➔

II 4.7 Control of customer supplying product

Return

Satisfying

Acceptable

Insufficient

Unknown

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